

REMARKS

This communication responds to the Office Action mailed on April 8, 2005. No claims are amended, no claims are canceled, and no claims are added. As a result, claims 1-25 are now pending in this Application.

Objections to the Specification

The Examiner objected to the specification because it contains an embedded hyperlink and/or other form of browser-executable code. This text has been amended, and the concerns of the Examiner in this regard should now be resolved.

The Examiner's attention is also drawn to the textual amendments made to the paragraphs on pages 2 and 13 of the Application. References to "Figure 2" in the Application have been amended to refer to "Figures 2A and 2B" so as to be consistent with the changes to FIG. 2, where the notations "FIG. 2A" and "FIG. 2B" have been substituted for the notation "FIG. 2" in accordance with generally recognized drawing standards. In addition, the term "CURRENT TASKS" in FIG. 2B has been changed to "CURRENT TASK" to correct a typographical error. No new matter has been added.

§101 Rejection of the Claims

Claims 1-10 were rejected under 35 USC § 101 in the Office Action as being directed to non-statutory subject matter. Specifically, it is asserted that "[c]laims 1-10 are directed to method steps ... which can be practiced mentally in conjunction with pen and paper." The Applicant respectfully disagrees.

Independent claim 1 includes the activity of "configuring a cache to store at least one process information element included in the plurality of tasks and at least one datum having a value". A cache is hardware, defined as "[a] small, fast memory holding recently accessed data, designed to speed up subsequent access to the same data. Typically used between a processor and main memory." See <http://www.crucial.com/library/glossary.asp>, by Crucial™ Technology, a division of Micron Technology, Inc. Configuring a cache clearly is not a task that can be accomplished "mentally in conjunction with pen and paper." Moreover, it is definitely tied to "a

technological art, environment, or machine.” Thus, independent claim 1, and dependent claims 2-10, which incorporate the element of “configuring a cache to store at least one process information element included in the plurality of tasks and at least one datum having a value,” are directed to statutory subject matter. Reconsideration and withdrawal of this rejection under 35 USC § 101 is respectfully requested.

§112 Rejection of the Claims

Claims 1-20 were rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Since a prima facie case of indefiniteness has not been established, the Applicant respectfully traverses this rejection.

Several requests for clarification with respect to the meaning of various terms have been made in the Office Action. The Applicant apologizes if the meaning of certain phrases appears obscure, and will address each of these statements below to show that the terms in question are indeed defined by the Application in a definite fashion.

As to claims 1, 11, and 16, the statement is made in the Office Action: “it is uncertain what is meant by ‘a process definition task structure including a plurality of tasks’”. By way of a response, it is respectfully noted that an example of such a structure, in Backus-Naur format, is set forth in the Application at page 5, line 16 to page 7, line 6. The included plurality of tasks are set forth as part of the structure, at page 5, lines 19-24.

As to claims 1, 11, and 16, the statement is made in the Office Action: “it is unclear what is the basic [sic, basis] for ‘binding’”. In reply, it is respectfully noted that “[r]esource binding ... includes associating specific sources of data with specific services within a process” and “[d]ynamically binding selected resources to tasks ... may include identifying intrinsic properties associated with designated resources ... identifying assignable properties associated with the designated resources ... and defining query predicates associated with the designated resources ...,” as set forth in the Application at page 4, lines 12-13; and pg. 6, lines 3-7.

As to claims 1, 11, and 16, the statement is made in the Office Action: “it is uncertain what ‘process information element’ refers to”. The Applicant respectfully notes that a process information element may comprise information about a process apart from the data upon which

the process may operate. For example, a cache may be configured “to store one or more process information elements included in the tasks”. Tasks may include a variety of non-data components, such as an Operation identified by a Service Type and Interface Definition, as shown in the example process definition task structure. *See* Application, pg. 5, lines 4-5 and lines 25-26. These capitalized terms are further defined on page 6 of the Application, as part of the process definition task structure.

As to claims 1, 11, and 16, the statement is made in the Office Action: “it is uncertain what is meant by ‘one datum having a value’”. By way of a response, it is respectfully noted that “examples of <opaque data type> for a Datum include the extensible markup language (XML) type, the XML-document type definition (DTD) type, the multipurpose internet mail extension (MIME) type, and a base64 (ascii character) encoded file” as set forth in the Application at page 7, lines 12-18. The value of the Datum should conform to the data type associated therewith.

As to claims 1, 11, and 16, the statement is made in the Office Action: “it is not clearly understood how the ‘scheduling’ base on [sic] (i.e. specifying process definition task structure, or binding of plurality of resources, or information stored in the cache.)” In reply, it is respectfully noted that “[t]ask execution ... may include scheduling the resources to execute the tasks ...” and “[t]ask execution ... may be triggered using requests arising from application activity, or the occurrence of external events ...”, as set forth in the Application at page 5, lines 7-8 and pg. 11, lines 11-12.

As to claim 21, the statement is made in the Office Action: “it is not clearly indicated what the relationship is between ‘a process body’ and ‘a process state’”. The Applicant respectfully notes that a Process may include the components of a Process Body and a Process State. The Process Body may include one or more Tasks, while the Process State may include information about the Process, such as the Process Execution Status and Task Results, as set forth in the process definition task structure. *See* Application, pg. 5, lines 16-21.

As to claim 23, the statement is made in the Office Action: “it is unclear what is meant by ‘interface definition’”. By way of a response, it is respectfully noted that an example of an Interface Definition is given as part of the process definition task structure, viz: “Interface Definition ::= <IDL Interface> (See, for example, the Object Management Group, Inc. Interface Definition Language (IDL) document, CORBA 2.5, Chapter 3, IDL Syntax and Semantics,

posted at http://www*omg*org/cgi-bin/doc?formal/01-09-40". See Application at page 6, lines 8-11.

Finally, it is respectfully noted that "[in] relation to Section 112, second paragraph, the Examiner has the burden of showing that the proposed claim language is indefinite to one of skill in the art." See Patent Prosecution: Practice and Procedure Before the U.S. Patent Office by Irah H. Donner, pg. 831, 2002. This type of showing has not been made.

To make out a *prima facie* case of indefiniteness, three elements must be shown:

- 1) interpretation of the claim in light of the specification;
- 2) interpretation of the claim as one of ordinary skill in the art would interpret it; and
- 3) that the limitation(s) in the claim, or the subject matter not in the claim, does not reasonably define the invention.

It is respectfully noted that "[a]n Examiner must clearly define the problem and why it is a problem in connection with the issue of claim definiteness in order to provide an applicant or any reviewing authority with the information necessary to evaluate the Examiner's position fairly." *Id.* at pg. 832. Nothing has been stated by the Office respecting the claim language proffered by the Applicant, in relation to interpretation by one of skill in the art. Since a *prima facie* case of indefiniteness has therefore not been established, and since the language of the claims is definite in light of the specification, it is respectfully requested that the rejection under 35 USC § 112, second paragraph, be reconsidered and withdrawn.

§103 Rejection of the Claims

Claims 1-25 were rejected under 35 USC § 103(a) as being unpatentable over Candea (U.S. 6,785,756; hereinafter "Candea") in view of Hu (U.S. 6,173,322; hereinafter "Hu"). First, the Applicant does not admit that Candea or Hu are prior art and reserves the right to swear behind these references in the future. Second, since a *prima facie* case of obviousness has not been established as required by M.P.E.P. § 2142, the Applicant respectfully traverses these rejections.

The Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074, 5 U.S.P.Q.2d (BNA) 1596, 1598 (Fed. Cir. 1988). In combining prior art references to construct a *prima facie* case, the Examiner must show some

objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art that would lead an individual to combine the relevant teaching of the references. *Id.*

The M.P.E.P. contains explicit direction to the Examiner that agrees with the *In re Fine* court:

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *M.P.E.P.* § 2142 (citing *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d (BNA) 1438 (Fed. Cir. 1991)).

An invention can be obvious even though the suggestion to combine prior art teachings is not found in a specific reference. *In re Oetiker*, 977 F.2d 1443, 24 U.S.P.Q.2d (BNA) 1443 (Fed. Cir. 1992). However, while it is not necessary that the cited references or prior art specifically suggest making the combination, there must be some teaching somewhere which provides the suggestion or motivation to combine prior art teachings and applies that combination to solve the same or similar problem which the claimed invention addresses. One of ordinary skill in the art will be presumed to know of any such teaching. (See, e.g., *In re Nilssen*, 851 F.2d 1401, 1403, 7 U.S.P.Q.2d 1500, 1502 (Fed. Cir. 1988) and *In re Wood*, 599 F.2d 1032, 1037, 202 U.S.P.Q. 171, 174 (C.C.P.A. 1979)). However, the level of skill is not that of the person who is an innovator but rather that of the person who follows the conventional wisdom in the art. *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 474, 227 U.S.P.Q. 293, 298 (Fed. Cir. 1985). The requirement of a suggestion or motivation to combine references in a *prima facie* case of obviousness is emphasized in the Federal Circuit opinion, *In re Sang Su Lee*, 277 F.3d 1338; 61 U.S.P.Q.2D 1430 (Fed. Cir. 2002), which notes that the motivation must be supported by evidence in the record.

Candea: teaches binding resources to selected processes according to a resource allocation order issued to a dispatcher, responsive to policy module queries. See Candea, FIG. 2 and Abstract, lines 1-17. Each process has at least one policy module associated therewith. See Candea, Col. 5, lines 14-16. A master policy module queries individual policy modules

according to a master policy and a policy module query schedule. *See* Candea, Col. 5, lines 14-16.

Hu: describes a system and method to distribute client requests to groups of content servers according to one or more static rules. *See* Hu, Col. 2, lines 27-34. Each content server within a group must be capable of servicing all client requests sent to that group. *See* Hu, Col. 2, lines 41-43. Client requests may be distributed according to a dynamic metric, based on measurements of available processing capacity made over time. *See* Hu, Col. 2, lines 51-56.

No proper *prima facie* case of obviousness has been established because (1) combining the references does not teach all of the limitations set forth in the claims, (2) there is no motivation to combine the references, and (3) combining the references provides no reasonable expectation of success. Each of these points will be explained in detail, as follows.

Combining The References Does Not Teach All Claim Limitations.

First, with respect to independent claims 1, 11, and 16, it is admitted in the Office Action that Candea does not disclose “configuring a cache to store at least one process information element included in the plurality of tasks,” as claimed by the Applicant. As will be shown below, Candea also does not describe a “process definition task structure,” as claimed by the Applicant in independent claims 1, 11, and 16. Finally, with respect to claim 21, it will be demonstrated that Candea also does not provide “specifying a process body including a plurality of tasks,” as claimed by the Applicant.

Candea operates according to a master policy module 202 configured to query policy modules P1, P2, ..., etc. according to a schedule. *See* Candea, Col. 5, lines 59-63. While it is asserted in the Office Action that “Candea teaches ... specifying a process definition task structure including a plurality of tasks” at Col. 3, lines 2-5, a careful reading of Candea reveals the following:

“The system may also include a policy data structure, the policy data structure including a reference to each of the plurality of policy modules that is associated with one or more of the plurality of processes. The master policy may be configured to query only those policy modules referenced in the policy data structure.”

As noted in the Application at pg. 5, lines 10-13, “[s]pecifying the process definition task structure at block 120 involves defining the process as a set of tasks and conjunctive logic. Each

process definition is distinguished by a name and/or other identifier. Instances of a process definition may also have an instance identifier, and include execution status information.” The policy data structure of Candea does not define a process as a set of tasks. Rather, the policy data structure interacts with selected processes to affect resource allocation. See Candea, Col. 3, lines 2-29. Thus, Candea describes a *policy data* structure, and not a *process definition task* structure, as claimed by the Applicant in independent claims 1, 11, and 16. No assertion is made by the Office that Hu supplies this element, and the Applicant was unable to find any evidence to support such an assertion.

With respect to claim 21, Candea also does not provide “specifying a process body including a plurality of tasks,” as claimed by the Applicant. The supporting portion of Candea cited in the Office Action again refers to a policy data structure. However, Candea’s policy data structure is not the same thing as a Process Body, which is defined to include Tasks and Conditions. See Application, pg. 5, line 19. Again, there is no assertion by the Office that Hu supplies this element, and the Applicant was unable to find any evidence to support such an assertion.

Therefore, no combination of Candea and Hu can provide “configuring a cache to store at least one process information element included in the plurality of tasks,” or a “process definition task structure,” or “specifying a process body including a plurality of tasks,” as claimed by the Applicant in independent claims 1, 11, 16, and 21, and a *prima facie* case of obviousness has not been established. Further, it is respectfully noted that if an independent claim is nonobvious under 35 USC § 103, then any claim depending therefrom is nonobvious. See M.P.E.P. § 2143.03. Therefore all dependent claims, including claims 2-10, 12-15, 17-20, and 22-25 are also nonobvious.

There Is No Motivation to Combine the References.

While the assertion is made that it would be obvious to combine Candea and Hu “because Hu’s cache for storing process information would improve the throughput of Candea’s system by storing needed data in cache to [sic] significant time saving when accessing data and/or process information,” it is respectfully noted that there is a fundamental incompatibility between the expressed goals of Candea and Hu, such that Candea teaches away from such a combination.

The test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). References must be considered in their entirety, including parts that teach away from the claims. See MPEP § 2141.02. The fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 USPQ2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01.

Candea notes two methods of improving resource allocation: dynamically changing policy parameters, and partitioning processes or applications into classes (statically or dynamically). See Candea, Col. 1, lines 50-67. In each case, the schemes do “not allow for on-the-fly creation of new resource scheduling policies.” Candea at Col. 2, lines 3-4. Hu specifically promotes the use of dynamic distribution of resources according to static rules, and partitioning requests among server groups – which is diametrically opposed to the approach espoused by Candea. See Hu, Col. 2, lines 32-53. Thus, Candea teaches away from combination with Hu, and there is no motivation to combine these references.

Combining the References Provides No Reasonable Expectation of Success.

Returning to the Office Action assertion that it would be obvious to combine Candea and Hu “because Hu’s cache for storing process information would improve the throughput of Candea’s system by storing needed data in cache to [sic] significant time saving when accessing data and/or process information,” it is respectfully noted that no “process information element” is stored in the cache of either Candea or Hu.

Candea teaches a resource R4 that may operate as a conventional cache memory. Policy modules can manage access to cached data blocks held in the cache memory. See Candea, Col. 10, lines 14-23. However, nothing in Candea suggests that the resource R4 is used to store the “process information elements” claimed by the Applicant.

Hu describes a connection cache 414 and a data cache 416. The connection cache 414 stores connections established with content servers 106. The data cache 416 stores data that is the subject of client requests. See Hu, Col. 5, line 57 – Col. 6, line 5. In neither case do Hu’s caches 414, 416 store “process information elements” as claimed by the Applicant.

It is respectfully noted that the test for obviousness under § 103 must take into consideration the invention as a whole; that is, one must consider the particular problem solved by the combination of elements that define the invention. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985). Neither Candea nor Hu teach or suggest the use of a cache to store the “process information elements” claimed by the Applicant, and therefore, combining these references provides no reasonable expectation that success will result.

In summary, none of the references teach “configuring a cache to store at least one process information element included in the plurality of tasks,” or a “process definition task structure,” or “specifying a process body including a plurality of tasks,” as claimed by the Applicant. The references teach away from the proposed combination, and no reasonable expectation of success results even if the references are combined. The requirements of *M.P.E.P.* § 2142 have not been satisfied, and a *prima facie* case of obviousness has not been established with respect to these independent claims. It is therefore respectfully requested that the rejections to claims 1-25 under 35 U.S.C. § 103 be reconsidered and withdrawn.

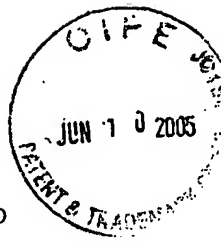
AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/025,069

Filing Date: December 18, 2001

Title: DISTRIBUTED PROCESS EXECUTION SYSTEM AND METHOD

Assignee: Intel Corporation



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Dkt: 884.627US1 (INTEL)

CONCLUSION

The Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone the Applicant's attorney, Mark Muller at (210) 308-5677, or the Applicant's below-named representative to facilitate prosecution of this Application. If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date June 8, 2005

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 8th day of June 2005.

John P. Ginter-Wentzell
Name

John P. Ginter-Wentzell
Signature

IN THE DRAWINGS

A corrected drawing is supplied herewith, labeled as "REPLACEMENT SHEET". A summary of the amendments are as follows:

FIG. 2 –The notations "FIG. 2A" and "FIG. 2B" have been substituted for the notation "FIG. 2" in accordance with generally recognized drawing standards, and the term "CURRENT TASKS" has been changed to "CURRENT TASK".